

REMARKS UNDER 37 C.F.R. 1.111

Reconsideration and allowance are respectfully requested.

The applicant appreciates the thorough examination of the application by Examiner Scaltrito and Primary Examiner Chaney.

§112 objections has been overcome by amendments to the claims.

The allowed claim 13 has been rewritten in independent form, incorporating the elements of claim 8.

Reconsideration and withdrawal of the §102(e) rejections are requested.

The cited Figure 3a may be misleading because it does not have a line at the end of membrane 2, although the guideline points to the end of membrane 2. It is clear that the guideline indicates the membrane 2. The position of the membrane is additionally shown, for example, at the right hand side of Figure 5a. Membrane 2 is described throughout the specification and it is specifically stated with regard to "the sectional views of Figure 3" or "the embodiments of Figure 3" that "in Figures 3a, 3b and 3c the adhesive bonding agent 50 contacts the membrane 2 on each side" (see column 7, lines 25 and 26).

There it is also stated "if the membrane does not protrude, the bond is achieved by impregnating essentially the entire thickness of a portion of the porous electrode layers in the sealing regions with adhesive bonding agent 50 so that it contacts the membrane" (see column 7, lines 28-32).

It is clear from the description in Schmid that the adhesive bonding agent 50 bonds the membrane to the adjacent separator plates 11 and 12 (see column 7, lines 34-37).

In contrast, as specifically pointed out in claim 1, there is a circumferential marginal volume zone on the bipolar plate 1 that is filled with a cured adhesive.

Schmid shows that the adhesive 50 in Figures 3a, 3b and 3c stop short of the outer faces. Figure 5a on the right hand side shows that the adhesive extends outward beyond the faces.

In contrast, claim 1 defines that the cured adhesive is filled all the way to its defining faces in a gap-free and gas-tight manner.

Claim 1 is not anticipated by Schmid.

Claims 2, 4, 5, 6, 8, 11, 12 and 15 depend from claim 1 and include all of the limitations of claim 1, and are not anticipated by Schmid.

In addition, claim 2 further points out that the hydrogen side of the bipolar plate is glued together with the anode side of the MEA. That structure is not found in Schmid, and the examiner has not specifically referred to claim 2 in the office action.

Claim 4 further points out that the hardened adhesive is a cured silicone or epoxy resin. A cured silicone is not referred to in Schmid.

Claim 5 adds that the bipolar plate has been pretreated with a bonding agent in the area of the adhesive. The examiner's

description of claim 5 and the equating of impregnating an electrode has no relation to claim 5 or its parent claim 1.

Claim 6 adds to claim 1 that the surface of the gas distribution structure and the surface of the circumferential volume are located flush in one plane.

Claim 8 claims the method of producing the product. The free-flowing adhesive is initially applied to the margin of the membrane or the bipolar plate in the form of an adhesive bead higher than the gas diffusion layer. Schmid does not have those steps of forming an adhesive bead. Claim 8 also points out that the volume of the bead is dimensioned so as to completely fill the volume zone. That is exactly opposite from what is shown in Schmid.

Claim 8 also points out the bringing of the adhesive into shape by assembling the components, which is not found in Schmid.

Claim 11 adds to claim 8 the curable silicone, which is not found in Schmid, and claim 12 adds to claim 8 the pretreatment, which is not found in Schmid and which is not anticipated by coating of elements 1 and 3 in Schmid.

Claim 15 adds to claim 1 the assembling of the materials in stacks and distinguishes the invention from the reference in the same manner as claim 1.

None of claims 1, 2, 4, 5, 6, 8, 11, 12 and 15 is anticipated by Schmid.

Claim 3 distinguishes the invention from Schmid in the same manner as claim 1, and further points out that the adhesive penetrates into the gas diffusion layer .2 mm to 1 mm.

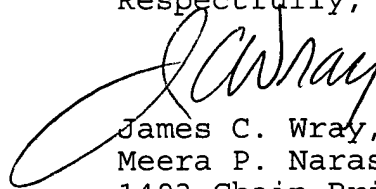
In contrast, Schmid leads away from that feature by pointing out "the bond is achieved by impregnating essentially the entire thickness of a portion of the porous electrode layers in the sealing regions with adhesive bonding agent 50 ..." (column 7, lines 29-31).

The criticality of that feature is that the adhesive penetrates into but does not stop the function of or significantly reduce the function of the gas diffusion layer. Nothing in Schmid suggests that controlled penetration.

Claim 10 adds to claim 8 the same limitation, which is not obvious from Schmid.

Reconsideration and allowance of claims 1-12 and 14 and 15 are requested.

Respectfully,



James C. Wray, Reg. No. 22,693  
Meera P. Narasimhan, Reg. No. 40,252  
1493 Chain Bridge Road  
Suite 300  
McLean, Virginia 22101  
Tel: (703) 442-4800  
Fax: (703) 448-7397

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